STERNBERG, L.

Effect of corrosive media upon resistance of steel; a book review. p. 2

TEHNICA NOUA, Bucuresti, Vol 3, No. 35, Feb., 1956

SO: East European Accessions List (EEAL) Library of Congress, Vol 5, No. 7, July, 1956

KRATOCHVILOVA, E.; KRUPICKA, S.; STERNBERK, J.; ZITKA, B.

Time increase of induction in the manganese-copper ferrite with rectangular hysteresis loop. Cs cas fys 14 no. 4: 293-302 '64.

1. Institute of Solid State Physics, Czechoslovak Academy of Sciences, Prague.

Sternberg, M.

✓Oxidative metabolism of anaerobic microorganisms by triphenyltetrazolium chloride. Eugenia Soru and M. Sternberg. *Acad. rep. populare Romîne, Studii cercetări chim.* 6, 263–70(1958).—The reduction of triphenyltetrazolium chloride (TTC) by some anaerobic bacteria: *Clostridium tetani*, *C. perfringens*, *C. novyi*, and *Vibrio septicus*, in the presence of different substrates (amino acids, sugars, keto acids, tetracarbon diacids, amines, etc.) was studied. *C. perfringens* uses the largest spectrum of substrates for the reduction of TTC: amino acids (aspartic acid, glutamic acid, cysteine, histidine, methionine), sugars (glucose, galactose, ribose, arabinose, xylose, rhamnose, mannose, fucose, sucrose, lactose, maltose), acids (fumarate, lactate, malonate, succinate, pyruvic). *C. tetani* does not reduce TTC in the presence of amino acids, and *C. novyi* and *Vibrio septicus* do not reduce TTC in the presence of any of these substrates.

Martha Arcos

STERNBERG, M.

√ Colorimetric determination of penicillic acid. M. Sternberg. *Acad. rep. populare Romîne, Studii cercetări chim.* 4, 315–20(1956).—Penicillic acid gives with hydroxylamine a red color in strong alkali. The sensitivity of this color reaction 80 γ/ml. and its specificity permits the detn. of penicillic acid. The max. of the absorption spectrum is at 530 mμ and its follows Beer's law or concns. of 80–1000 γ/ml. The color is stable and very little or not influenced by light, temp., or inorg. ions. Only penicillic acid and acetylpenicillic acid give this color. This color reaction is not given by dibromopenicillic acid or by various other antibiotics (penicillin, streptomycin, aureomycin, chloromycetin, bacitracin). Martha Arsos

STERNBERG, M.

RUMANIA/Microbiology - Microbes Pathogenic for Man and Animals. Bacteria. Mycobacteria.

Abs Jour : Ref Zhur Biol., No 22, 1958, 99494

Author : Ionescu-Mihaiesti, C., Dimbovoiceanu, Aristia-Sora, E., Darier, C., Raduleska, E., Gaucevici, G., Sternberg, M.

Inst : Rumanian Academy

Title : Complete Antigen of the Glucido-lipido-nucleopolipeptide Type Extracted from Tubercle Bacilli of the Human Type $H_{37}RV$.

Orig Pub : Comun. Acad. RPR, 1956, 6, No 10, 1245-1250

Abstract : The authors obtained a complex of the glucido-lipido-
nucleopolipeptide type by subjecting defatted microbe
cells to the action of a borate buffer (pH 8.2). The
obtained complex contains 30.40% of nucleinic acids
(in nucleic acid and 15.96% of ribonucleic acid), 47%

Card 1/3

of reducing sugars and 9.74% of lipids. Following acid hydrolysis of this complex, 13 amino acids were detected with the aid of chromatography, among them 34.2% of alanine, 18.5% of glutaminic acid, 10.24% of asparaginic acid, and 8.37% of cysteine; besides that, 5 reducing sugars were found (16.5% of arabinose, 10% of galactose, 5.11% of mannose, 3.31% of ribose and 2.8% of glucose). The complex is split with the aid of electrophoresis into 4 fractions; they may be identified by the rate of migration with the following serum proteins: delta-globulin (8%), gamma-globulin (67%), beta-globulin (10%), and albumin (15%). The obtained complex possesses the properties of a complete antigen. Injected into rabbits, it causes the appearance in the serum of precipitins reacting with tuberculo-protein in dilutions of up to 1:6,250-1:12,500, and with the complete antigen in

Card 2/3

dilutions of 1:1,600-1:3,200. -- L.M. Model'

Card 3/3

IONESCU-MIHAESTI, C.; DIMBOVICEANU, Aristia; SORU, Eugenia; RADULESCU, Elena; BARBER, Celia; GANCEVICI, G.; OPRESCU, C.C.; FLECHNER, I.; STERNBERG, M.

Chemical and antigenic properties of protein fractions isolated from filtrates of cultures of tubercle bacilli of the human type $H_{37}v$ in Sauton's medium. Stud. cercet. inframicrobiol., Bucur. 8 no.1:85-94 1957.

(MYCOBACTERIUM TUBERCULOSIS, culture
human type $H_{37}v$ bact. cultured in Sauton medium, chem. & antigenic properties of protein fractions)

(ANTIGENS
antigenic properties of protein fractions of M. tuberc., type $H_{37}v$, cultured in Sauton's medium)

(PROTEINS
protein fractions of M. tuberc., type $H_{37}v$, culture in Sauton's medium, chem. & antigenic properties)

[illegible] M.

RUMANIA/Chemical Technology - Chemical Products and Their Applications - Drugs, Vitamins, Antibiotics.

Abs Jour : Ref Zhur - Khimiya, No 11, 1958, 37204

Author : Ionescu, M., Waitman, R., Miss, A., Voinescu, R., Benis, B., Sternberg, M.

Title : Purification Methods of Penicillin.

Orig Pub : Rev. Chim. 1957, 8, No 5, 334-335

Abstract : Conditions for application of methods for penicillin G (I) purification have been established. They are: Precipitation of the colored impurities by acidification, recrystallization of (I) from butanol and isopropanol, purification of N,N'-dibenzyl ethylenediamine dipenicillate.

Sternberg, M.

RUMANIA / Chemical Technology, Chemical Products and Their Application, Part 3. - Drugs, Vitamins, Antibiotics. H-17

Abs Jour : Ref Zhur - Khim., No 14, 1958, No 47777

Author : M. Sternberg, B. Benis, A. Solomon, Renee Ghimpu, Luliana Conu, A. Mias, I. Andronic, Ciocanelea, A. Prialnic, Alice Ilian, Hermina Schreiber.

Inst : -

Title : Dicillin (Diponicillinate of N,N'-Dibenzylethylenediamine).

Orig Pub : Rev. chim., 1957, 8, No 5, 339 - 341

Abstract : Methods of N,N'-dibenzylethylenediamine dipenicillinate preparation of crystalline penicillin G or various intermediate phases of its extraction or purification are described. Hints concerning the preparation of some Galenic forms (tablets and injection suspensions) and the methods of chemical and microbiological analyses are presented.

Card 1/1

STERNBERG, M.; VOINESCU, R.

A chromatographic determination of gibberellic acid. Folia microbiol 6 no.3:189-191 '61. (EEAI 10:8)

1. Biosynthetic Section, Chemical Pharmaceutical Research Institute, Bucharest.
(GIBBERELIC ACID) (CHROMATOGRAPHY)

STERNBERG, M.B.

VASIL'YEV, Ivan Mitrofanovich; OENKEL', P.A., professor, redaktor; STERNBERG, M.B., redaktor; POLYAKOVA, T.V., tekhnicheskiy redaktor.

[Wintering of plants] Zimovka rastenii. Moskva, Izd-vo Akademii nauk SSSR, 1956. 307 p. (MLRA 9:6)
(Plants--Frost resistance)

NONAY, Tibor.; STERNBERG, R.; KORNEL, ALICE.; KORNEL, Alice.

Surgery of vertical muscles of the eye. Szemeszet 91 no.4: 145-150 Nov 54.

1. A budapesti Orvostudomanyi Egyetem II. sz. Szemklinikajanak kozlemenye (Igazgato: Nonay Tibor egyetemi tanar, az orvostudomanyok kandidatusa)

(MUSCLES, OCULOMOTOR, surgery, vertical musc.)

89403

S/062/61/000/001/011/016
B101/B220

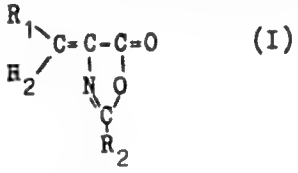
5.3610 2209, 1375

AUTHORS: Ciorenescu, Caterina, Buchen-Bârlădeanu, Ludmilla [Abstracter's note: or Bîrlădeanŭ], and Sternberg, René

TITLE: Synthesis of α-aminoketones

PERIODICAL: Izvestiya Akademii nauk SSSR. Otdeleniye khimicheskikh nauk, no. 1, 1961, 144-148

TEXT: The authors mention the use of α-aminoketones as starting material for the synthesis of oxazoles which are used as scintillators. After mentioning the known methods of synthesis from α-haloketones, oximino ketones, oxime aryl sulfonates, N,N-dichloro-sec-alkyl amines, and N-acylated amino acid chlorides, they describe a simple method for the synthesis of aromatic α-aminoketones. Azlactones (derivatives of 5-oxy-zolone) were used as initial substances:



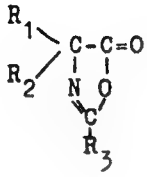
(I)

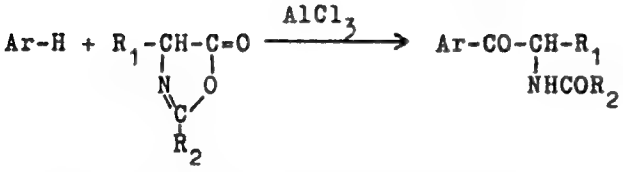
Card 1/4

89403

Synthesis of α-aminoketones

S/062/61/000/001/011/016
B101/B220

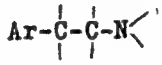
and  (II). Saturated (II) is more reactive than unsaturated (I). It can be obtained by treatment of α-acyl amino acids or α-amino acids with acetaldehyde. Azlactones react with aromatic hydrocarbons in the presence of electrophilic catalysts ($AlCl_3$):



From this reaction the authors obtained α-acyl aminoketones by treatment of the n-benzoyl derivatives of glycine, alanine, α-aminobutyric acid, phenyl glycine, and phenyl alanine with acetaldehyde. If the low α-amino acids are treated directly with acetanhydride, it is difficult to separate the excess aldehyde from the azlactone. In the case of phenyl alanine, also α-amino indanone was formed owing to a side reaction. In the case of

Card 2/4

higher homologs, there occurs only this reaction which will be dealt with elsewhere. Results are summarized in a table. Since all α-aryl amino-ketones possess the group



which occurs also in adrenalin and ephedrine, the substances obtained will be studied as to their physiological effect. It is emphasized that the α-aminoketones are valuable intermediate products for the synthesis of derivatives of pyrrole, imidazole, and oxazole. The investigation will be continued with higher aromatic hydrocarbons with a view to obtaining α-acyl aminoketones with various aryl radicals, which can be produced by other methods only with difficulty and are able to serve as initial substances for the synthesis of bisubstituted oxazoles. There are 1 table and 16 references: 2 Soviet-bloc and 7 non-Soviet-bloc.

ASSOCIATION: Institute of Chemistry, Academy of the Rumanian People's Republic

SUBMITTED: June 4, 1960

89403

Synthesis of α-aminoketones

S/062/61/000/001/011/016
B101/B220

α-Ациламинокетоны $Ar—CO—\underset{\displaystyle NH—COR_2}{\underset{|}{CH}}—R_1$

1 Исходные рективы		Ar	R_1	R_2	Т. пл. °С 12	Выход % 13	Литература 14
2 ароматическая компонента	3 аминокислота						
4 Бензол	5 Гиппуровая	C_6H_5	H	C_6H_5	123	81	[11]
	6 N-бензоилаланин	C_6H_5	CH_3	C_6H_5	103	82	[13]
	7 N-бензоил-α-аминомасляная	C_6H_5	CH_3CH_2	C_6H_5	101	84	[14]
	8 N-ацетилфенилглицин	C_6H_5	C_6H_5	CH_3	134	60	[15]
	9 N-бензоилфенилаланин	C_6H_5	$C_6H_5CH_2$	C_6H_5	144	28	
10 Анизол	5 Гиппуровая	$CH_3O—C_6H_4$	H	C_6H_5	113	16	
		$HO·C_6H_4$	H		156	20	
11 Толуол	6 N-бензоилаланин	$CH_3·C_6H_4$	CH_3	C_6H_5	113	81	[16]

Legend to the table: 1) initial substances; 2) aromatic component; 3) amino acid; 4) benzene; 5) hippuric acid; 6) N-benzoyl alanine; 7) N-benzoyl-α-aminobutyric acid; 8) N-acetyl-phenyl glycine; 9) N-benzoyl-phenyl alanine; 10) anisole; 11) toluene; 12) melting point; 13) yield; 14) reference.

Card 4/4

AVRAM, Margareta; STERNBERG, Renée; DINULESCU, I.G.; NENITESCU, C.D., acad.

Condensation of 1,3-diiod-2-phenylpropane with ethyl malonate. Studii cer chim 10 no.1:73-80 '62.

1. Centrul de cercetari chimice al Academiei R.P.R., Sectia de chimie organica, Bucuresti. 2. Membru al Comitetului de redactie si redactor responsabil, "Studii si cercetari de chimie" (for Nenitescu).

[redacted], S.; [redacted], I.

Thermodynamic properties of the binary salt mixtures in a dissolved state. I. The AgCl-KCl system. In German. p. 251.

REVUE DE CHIMIE. JOURNAL OF CHEMISTRY. (Academia Republicii Populare Romine) Bucuresti, Rumania. Vol. 2, no. 2, 1957.

Monthly List of East European Accessions (EEAI) LC, Vol. 8, no. 7, July 1959.

Uncl.

STEFANESCU, I.; MARCELESCU, I.; MARCHIDAN, D.

Binary salt mixtures, and their thermodynamic properties when in liquid state. I. The AgBr-AgCl system. III. The AgCl-KCl and AgCl-$PbCl_2$ mixtures, and the determination of their activity by melting diagrams. IV. The AgCl-KCl system, and the determination of its thermodynamic activity by concentration chains. V. Melting diagrams as used in determining the thermodynamic activity of the following mixtures: AgBr-KBr, $PbCl_2$-LiCl, $PbCl_2$-NaCl, and $PbCl_2$-$CaCl_2$. In German. p. 47.

REVUE DE CHIMIE. JOURNAL OF CHEMISTRY. (Academia Republicii Populare Romine) Bucuresti, Rumania. Vol. 3, no. 1, 1958.

Monthly List of East European Accessions (EEAI) LC, Vol. 8, no. 7, July 1959.

Uncl.

1 G/AD
4E2d(b)

New types of batteries with silver chloride depolariter. I. Primary batteries. S. Sternberg, S. Rottner, and Viorica Leonte. *Acad. rep. populare Romîne, Studii cercetări chim.* 7, 95–105(1950).—A new type of primary battery is proposed with AgCl as depolariser; it has a considerable advantage over MnO_2-depolarised, Leclanché-type batteries. The current was practically const. throughout discharge at large currents (up to 1/4 of nominal capacity, as compared to 1–100 with Leclanché cells) with small loss of capacity. Sp. capacity (based on wt. or vol.) was larger. The depolariser was completely recoverable, transforming through discharge into pure metal; the same was true for the Ag leaf employed for conduction. The cell was constructed of a 10 × 30-mm. Ag leaf on which an AgCl layer had been laminated and a 30 × 10 × 0.5-mm. Zn plate having its soln. side amalgamated. The electrolyte was regular Leclanché type, imbibed into a few paper leaves. The cell was enclosed within a poly(vinyl chloride) ring, and superposition of cells gave a battery of identical and additive properties, i.e. current was const. and e.m.f. was a multiple of the cell e.m.f. of a single cell. M. Lapidot

STERNBERG, S. ; GHEORGHIU, S.

Thermodynamic properties of the AgCl NaCl mixtures in a melted state, p.107.

STUDII SI CERCETARI DE CHIMIE. Bucresti, Rumania
Vol. 7, No. 1, 1959.

Monthly List of East European Accession (EEAI). LC, Vol. 8, No. 9, Sept. 1959
Uncl.

SHTERNBERG, S. [Sternberg, S.]; GEORGIU, Steliana [Gheorghiu, Steliana]

Thermodynamic properties of the mixture AgCl + NaCl in dissolved state. Rev chimie 5 no.1:119-128 '60. (EEAI 10:2)

1. TSentr khimicheskikh issledovaniy Akademii RNR, Bukharest.
(Mixtures) (Silver chloride) (Salt)

STERNBERG, S.; MARTA, Letitia

A method of determining the heat of fusion of theinorganic salts.
Rev chimie 5 no.2:281-288 '60. (EEAI 10:4)

1. Centre de Recherches Chimiques de l'Academie de la Republique Populaire Roumaine, Section de Chimie physique.
(Inorganic compounds) (Salts)

STERNBERG, S.; MARTA, Letitia

A method of determining the heat of fusion of inorganic salts.
Studii cerc chim 8 no.3:437-444 '60. (EEAI 10:9)

1. Centrul de cercetari chimice, Sectia de chimie-fizica, Bucuresti.

(Salts) (Inorganic compounds) (Fusion)

TOPOR, Dumitru; STERNBERG, S.

Transport number in the aqueous solutions of $CuCl_2$. Studii cerc chim 8 no.3:445-449 '60. (EEAI 10:9)

1. Centrul de cercetari chimice, Sectia de chimie-fizica, Bucuresti.

(Solutions) (Water) (Copper chlorides)
(Ions) (Electrolysis)

MURGULESCU, I. G., acad.; STERNBERG, S.

Mixing heat of the binary melted salt mixtures. Rev chimie 6 no.1: 29-44 '61.

1. Abteilung fur physikalische Chemie, Chemisches Forschungszentrum der Akademie der RVR, Bukarest. 2. Membre du Comite de redaction "Revue de chimie" (for Murgulescu).

MURGULESCU, I. G., acad.; STERNBERG, S.

On the heat of the mixture of the binary systems of melted salts. Studii cerc chim 9 no.1:39-54 '61. (EEAI 10:9)

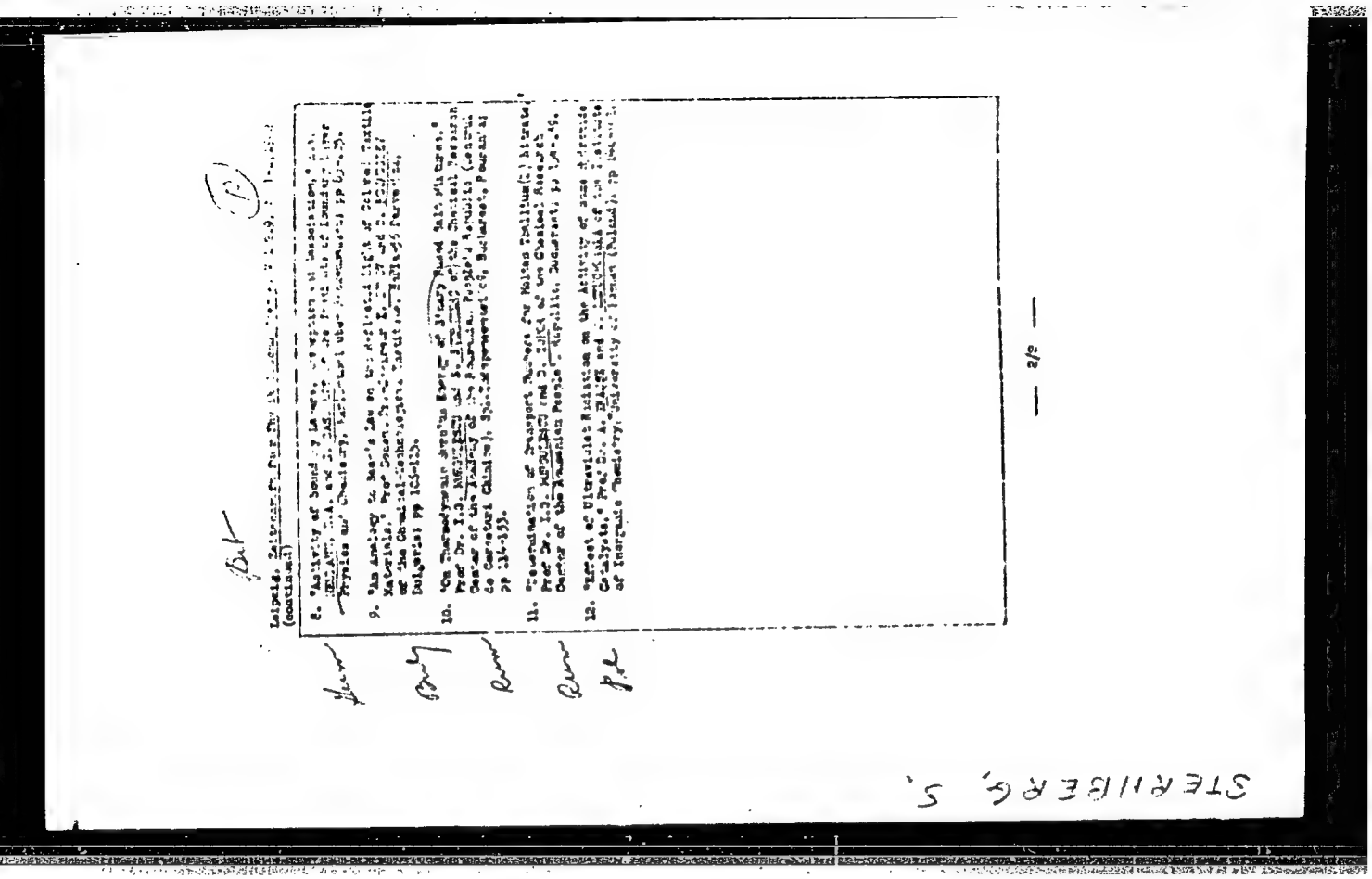
1. Centrul de cercetari chimice al Academiei R.P.R., Sectia de chimie-fizica, Bucuresti. 2.Comitetul de redactie, Studii si cercetari de chimie (for Murgulescu).

(Mixtures) (Salts) (Heat)

STERNBERG, S.; MARCHIDAN, D.I.

Thermodynamic activity determined with diagrams of fusion in the mixture of the melted salts forming chemical compounds. Studii cerc chim 9 no.4:653-661 '61.

1. Centrul de cercetari chimice al Academiei R.P.R., Sectia de chimie-fizica, Bucuresti.



STERNBERG, S.

STERNBERG, S.; MEDINTEV, Ludmila

Determination of thermodynamic properties of molten salts by the oscillographical method; the mixture AgBr + AgCl and the pure salts KBr and NaBr. Rev chimie 7 no. 1: 569-577 '62.

1. Chemical Centre of the Academy of the R. P. R. Bucharest.

SHTERNBERG, S. [Sternberg, S.]; MARKIDAN, D.I.

Determination of thermodynamic activity with the aid of fusion diagram, for the mixture of melted salts, forming chemical compounds. Rev chimie 8 no.1:115-121 '63.

1. Tsentr khimicheskikh issledovaniy Akademii RNR, Sektsiya Fizicheskoy khimii Bukharest.

Spectrochemical analyses with special regard to light metals. Zdenko Sternberg. *Tehnički Pregled* (Zagreb) 4, 20–6(1962).—The basic principles and techniques of spectrography and methods of evaluating spectrograms are discussed. N. Plavšić

STERNBERG, Z.; TOMAS, P.

Excitation of helium atoms by the impact of deutrons and rotons. Bul sc Youg 7 no.1/2:19 F-Ap '62.

1. Institut "Ruder Boskovic," Zagreb.

STERNBERG, Z. [translator]

The 5th International Congress for Clinical Chemistry. Croat chem acta 34 no.3:A12 '62.

STERNBERG, Zdenko, dipl. ing.

Direct conversion. Nuklear energija 1 no.3/3 34-36 '64.

Thermonuclear research. Ibid. 4 [illegible] 4

1. Senior Technical Assistant and Head, Laboratory of the Physics of Ionized Gases of the Ruder Boskovic Institute, Zagreb.

[illegible].

"[illegible]." p. 27. (PICE INFO, Vol. [illegible], no. [illegible], [illegible], France.)

SO: Monthly List of East European Accessions, Vol. 2, #10 Library of Congress October 1953, Uncl.

STERNBERK, B.

"Color of stars." (p.151). RISE HVEZD. (Ceskoslovenska spolecnost astronomicka) Praha. Vol. 34, No. 7, Sept. 1953.

SO: East European Accessions List, Vol. 3, No. 8, Aug 1954.

STERNBERK, Bohumil

Congress of the International Astromical Union in Berkeley, August 15-24, 1961. Poroky mat fyz astr 7 no.1:38-40 '62.

STERNBERK, J.

Ballistic demagnetizing factors for samples with rectangular cross sections [with summary in English]. Chekh.fiz.zhur. 3 no.1:85-93 Mr '53. (MLRA 7:6)

1. Institute of Technical Physics, Prague. (Electromagnetic theory)

STERNBERK, J.

" Experimental Confirmation of Arkad' ev's Propcsition of the Straight-Line Course of a Correction Curve," p.132.
(Casopis Pro Pestovani Fysiky, Vol.3, No.2, Apr. 1953, Praha.)

SO: Monthly List of East European Accessions, Vol.2, No.9 /Library of Congress, September 1953, Uncl.

STERNBERK, Jiri.

Experimental verification of Arkadiev's assumption on the linearity of the displacement curve [with summary in English]. Chekh.fiz.zhur. 3 no.2:151-161 Je '53. (MLRA 7:6)

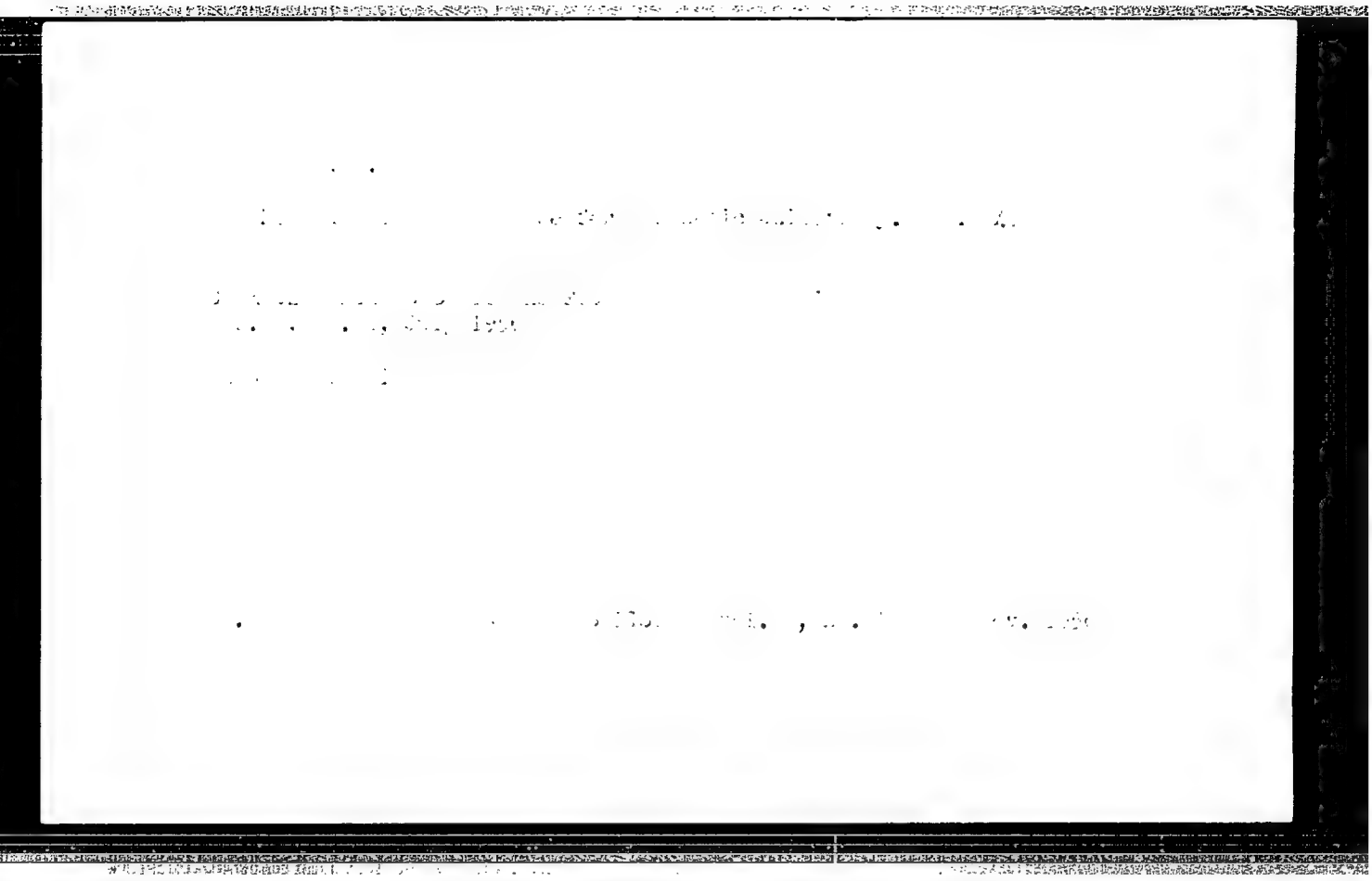
1. Institute of Technical Physics, Prague.
(Electromagnetism) (Hysteresis)

STERNBERK, J

538.247

✓95. THE INFLUENCE OF DEMAGNETIZATION METHOD ON THE PERMEABILITY OF IRON. J.Brož and J.Sternberk. Czech. J. Phys., Vol. 5, No. 3, 426-8 (Aug., 1955). In Russian.

It is sometimes thought that all methods of demagnetizing a specimen of iron, say, are equivalent. The authors' experiments, however, on Armco and other types of iron, show that specimens demagnetized by an alternating magnetic field possess thereafter higher permeability than the same specimens demagnetized by heating above the Curie point and slowly cooling to room temperature. Further, the higher the frequency of the alternating demagnetizing field, the higher the subsequent values of Δ_μ plotted against H for the specimens when remagnetized. An explanation is put forward in terms of magnetic textures quoted in Vonsovskii and Shur's "Ferromagnetism". C.R.S.Manders



STERNBERK, J.

Contribution to the study of ideal magnetization of manganese ferrite.

P. 142 (Ceskoslovenska Morfologie. Vol. 5, no. 4, 1957, Praha, Czechoslovakia)

Monthly Index of East European Accessions (EEAI) LC. Vol. 7, no. 2, February 1957

STERNBERK, J.

21

Ideal magnetization of manganous ferrite. Jiří Sternberk. *Czechoslov. J. Phys.* 7, 142–5(1957).—The magnetization of a Mn ferrite (Fe_2O_3 70.98, Mn 28.44, O 0.13, SiO_2 0.3%; outside diam. 10 mm.; inside diam. 6 mm.; height 4.5 mm.; 350 + 35 windings) was examd. with modification of the direction of the magnetic field. The main results are: max. permeability $\mu_{max.}$ = 1120; remanence = 2500 gausses; coercive force = 1.20 oe.; internal demagnetization factor 0.00110. From *C.Z.* 1958, 8832.

AUTHOR: Šternberk, Jiří CZECH/37-59-3-16/29

TITLE: On the Problem of the Rectangularity of the Hysteresis Loop of Manganese Ferrite (Letter to the Editor)

PERIODICAL: Československý časopis pro fysiku. 1959, Nr 3, p 320

ABSTRACT: The rectangularity of the hysteresis loop of ferrites is influenced by magnetocrystalline and magneto-elastic anisotropy as well as by porosity (Wijn et al - Ref 1). As a measure for the porosity we have used (Refs 3,4,5) the internal demagnetization factor.
The ratio B_r/B_{max} (remanent/maximum induction) was independent of the chemical composition of the samples but it was dependent on the internal demagnetization factor N_i (Figure 1).

The letter contains 1 figure and 6 references, of which 1 is English, 2 are Czech and 3 German.

Card1/2

CZECH/37-59-3-16/29

On the Problem of the Rectangularity of the Hysteresis Loop of Manganese Ferrite (Letter to the Editor)

ASSOCIATION: Ústav technické fysiky ČSAV, Praha (Institute of Technical Physics, Czechoslovak Ac.Sc., Prague)

SUBMITTED: November 5, 1958

Card 2/2

STERNBERK, Jiri

CZECHOSLOVAKIA / Magnetism. Ferromagnetism. F-4

Abs Jour : Ref Zhur - Fizika, No 3, 1957, 6846

Author : Sternberk, Jiri
Title : Methods of Studying Ferromagnetic Anisotrophy

Orig Pub : Ceskosl. caslp fys., 1956, 6, No 4, 449-481

Abstract : Survey. The relationship between the energy of magnetic anisotropy and other magnetic properties is considered. Methods for the determination of the anisotropy constants are analyzed from the physical point of view, and a brief report is given on the results of a study of anisotropy in metallic and non-metallic ferromagnetics. Bibliography, 90 titles.

Card : 1/1

CZECHOSLOVAKIA/Magnetism - Ferrites and Ferrimagnetism.

Abs Jour : Ref Zhur - Fizika, No 6,1959, 13245

Author : Sternberk, J.R.

Inst : Institute of Technical Physics, Czechoslovak Academy of Sciences, Prague.

Title : Concerning the Problem of Investigating the Ideal Magnetization of Manganese Ferrites.

Orig Pub : Chekhoal. fiz. zh., 1957, 7, No 3, 339-343

Abstract : The author describes certain improvements in the well-known differential method of determining the ideal magnetization. The new measurement method is verified on two toroids of manganese-ferrite and homogeneity of the investigated material is studied on the basis of the internal demagnetization.

Card 1/1

STERNBERK, J.; BROZ. J.

Temperature dependence of the coefficients of rectangularity of manganese magnesium ferrites. p. 445

CESKOSLOVENSKY CASOPIS PRO FYSIKU. (Ceskoslovenska akademie ved. Ustav technicke fysiky) Praha, Czechoslovakia, Vol. 9, no. 4, 1959.

Monthly List of East European Accessions (EEAI), LC, Vol. 8m no. 10, Oct. 1959 Uncl.

The temperature dependence of the rectangularity coefficients of manganese magnesium ferrite. J. Broš and J. Šternberk (Czechoslov. Acad. Sci., Prague). *Czechoslov. J. Phys.* 9, 531–2(1959)(in German).—B. and Š. detd. the 2 coeffs. of the rectangularity as functions of temp. and chem. compn. Previous explanations of these dependencies are discussed, and it is pointed out that present hypotheses are not sufficient to satisfactorily explain the anomalous observations. A. Kremheller

3
1-JAJ (MAY)

Relation between rectangularity of the hysteresis loop of manganese magnesium ferrites and the internal demagnetization factor. Jaromír Brož and Jiří Šternberk (Czechoslov. Acad. Sci., Prague). *Czechoslov. J. Phys.* 9, 606–7(1959) (in German).—In continuation of previous work (cf. preceding abstr.) the authors have studied ferrites of the compns. $Mn_{0.8}Mg_{0.2}Fe_{1.8}O_4$, $Mn_{0.6}Mg_{0.4}Fe_{1.8}O_{4.8}$, and $Mn_{0.5}Mg_{0.5}Fe_{1.8}O_{4.8}$. The results appear to indicate that the rectangularity should be 100% when the internal demagnetization factor is zero; the latter depends on the porosity of the material.

A. Kremheller

40299

S/194/62/000/006/008/232
D222/D309

24.2200

AUTHOR: Sternberk, J.

TITLE: Effective anisotropy constant of polycrystalline nickel ferrite

PERIODICAL: Referativnyy zhurnal. Avtomatika i radioelektronika, no. 6, 1962, abstract 6-1-73 u (Chekhosl. fiz. zh., 1961, B 11, no. 10, 766-768)

TEXT: The magnetic anisotropy constant is found for a nickel ferrite specimen in which the ratio of the iron to nickel cations is 2:0.936. When the anisotropy is calculated from the usual formula, starting from the cristalline structure of the alloy, the obtained anisotropy constant is negative, which has been repeatedly observed for heterogeneous magnetic alloys and was explained by the internal inhomogeneities of the material. For this reason a new model has been adopted, according to which the specimen consists of individual particles, and for each particle its surrounding is homogeneous and is regarded to be spherical. The field acting on each particle is increased by a factor $4/3\pi$ relative to the magnetiza-

Card 1/2

Effective anisotropy constant of ...

tion effect of the specimen surface. A spherical specimen was selected and the field causing the rotation process during remagnetization was measured directly between the poles of an electromagnet. The single-axis magnetic anisotropy constant obtained was 1.4 x x 10^{-5} Oe/cm^3 compared with -2.7 x 10^{-5} Oe/cm^3 for ordinary crystalline anisotropy. The observed linear dependance of magnetization on the reciprocal of the squared magnetic field intensity of the external field remains almost constant for varying temperatures of the specimen. 5 references. [Abstracter's note: Complete translation.]

Card 2/2

L 05393-67 EWT(t)/ETI IJP(c) JD/WW

ACC NR: AP6029413 SOURCE CODE: CZ/0055/66/016/006/0536/0538

AUTHOR: Zitka, B.; Sternberk, J.

ORG: Institute of Solid State Physics, Czechosl. Acad. Sci., Prague

TITLE: The behaviour of Mn-Cu ferrite simultaneously magnetized by a pulse and d-c field at a temperature of -195C

SOURCE: Chekhoslovatskiy fizicheskiy zhurnal, v. 16, no. 6, 1966, 536-538

TOPIC TAGS: magnetization, ferrite, magnetization curve, magnetic field

ABSTRACT: The effects of magnetization of polycrystalline Mn-Cu ferrite with an a-c field and a d-c field have been described in earlier studies. The present paper deals with experiments with the same ring-shaped ferrite which was subjected to the simultaneous action of an a-c and d-c field. The results of two series of experiments are given. A diagram showing the magnetization curves and the time dependence of induction at varying field and pulse intensities is presented. The authors thank Dr. E. Steinbeiss from the Institute for Magnetic Materials in Jena for valuable discussion. Orig. art. has: 1 figure.

SUB CODE: 20/ SUBM DATE: 31Dec65/ ORIG REF: 004/

Card 1/1

[illegible], M.

Forgotten projects of Warsaw bridges. p. 354.

[illegible]. Warszawa, Poland. Vol. 14, no. 9, Sept. 1959.

Monthly List of East European Accessions (EEAI) LC, Vol. 9, no. 2, Feb. 1960. Uncl.

STERNER, Waclaw (Warszawa)

Prefabricated ceiling to be used in general repair.
Przegl budowl i bud mieszk 34 no.6:324-327 Je '62

HOMMIK, K., kand. tekhn. nauk; KALJUMAE, H., inzh. gidrotekhn.; KASK, R., kand. sel'khoz. nauk; KATUS, A., inzh. lesnogo khoz.; KILDEMAA, K., kand. geogr. nauk; KURKUS, J., agronom; LIPPMAA,A., inzh. gidrotekhn.; PANT, R., prepodavatel', agronom; RAIG, V., inzh. gidrotekhn.; REMMEL, A., inzh.melior.; TALPSEPP,E., kand. sel'khoz. nauk; SOOSAAR, V., inzh., lesnogo khoz.; STERNFELD,H., inzh. stroit.; TOMINGAS, E., inzh. melior.; KARUS, G., red.; RAUD, M., red.; VAHTRE, I., tekhn. red.

[Handbook for soil improvement] Maaparanduse kasiraamat. Tallinn, Eesti riiklik kirjastus. Vol.1. [Fundamentals of soil improvement] Maaparanduse alused. 1962. 473 p. (MIRA 15:5)
(Soils)

STERNIK, A.M., inzhener.

[redacted]

Remote control of tower cranes. Nov. tekh. i pered.op. v stroi. 19 no.2:25 F '57. (MLRA 10:4)
(Cranes, derricks, etc.)
(Remote control)

STERNIK, E.

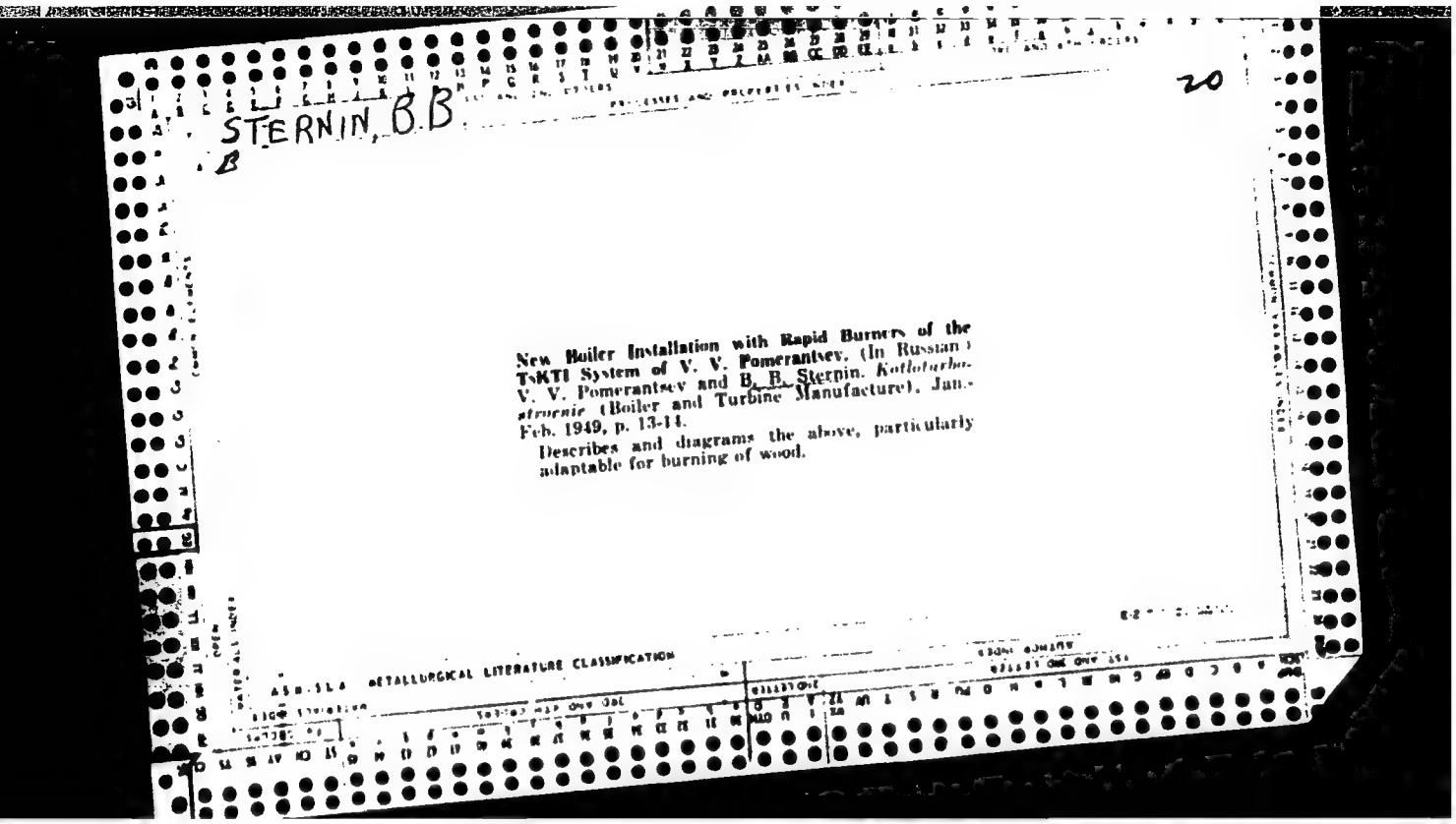
STERNIK, E. The influence of low temperatures upon the quality of baker's yeast. p. 368. Vol. 10, no. 9 Sept. 1956
PRZEMYSL SPOZYWCZY, Warsaw Poland

SOURCE: East European Accessions List (EEAL) Vol. 6 No. 4 April 1957

STERNIK, Klara; MARKOWIAK, Wlodzimierz

Metabolism and physiological role of histamine in the organism.
Pol. tyg. lek. 19 no.5:186-188 30 Ja '64.

1. Z Zakladu Patologii Doswiadczalnej Polskiej Akademii Nauk w Warszawie (kierownik: prof. dr Z. Ruszczewski) i Pracownia Patofizjologii (kierownik: doc. dr Cz. Maslinski)



STERNIN, B.B.

20

New Boiler Installation with Rapid Burners of the TsKTI System of V. V. Pomerantsev. (In Russian) V. V. Pomerantsev and B. B. Sternin. *Kotloturbostroenie* (Boiler and Turbine Manufacture), Jan.-Feb. 1949, p. 13-14.

Describes and diagrams the above, particularly adaptable for burning of wood.

STERNIN, B.B., kand.tekhn.nauk

Boiler units with drying chambers for peat and wood wastes. Energomashinostroenie 7 no.7:40-42 Jl '61. (MIRA 14:8)
(Boilers)

KORCHUNOV, Yu.N., kand. tekhn. nauk; STERNIN, B.B., kand. tekhn. nauk; YEROFEYEV, P.A., inzh.; ILLENZEYER, I.Kh., inzh.

Adjustment and testing of the furnace system and dryer of the DKV-6,5-13 boiler. Energomashinostroenie 9 no.10:41-43 O '63. (MIRA 16:10)

STERNIN, B. Yu.

General boundary value problems for elliptic equations in a region bounded by manifolds of varied dimensionality. Dokl. AN SSSR 159 no.5:992-994 D '64 (MIRA 18:1)

1. Predstavleno akademikom I.G.Petrovskim.

SLOBIN, M.Ya.

General boundary value problems for elliptic equations in a region whose boundary consists of manifolds of different dimensionality. Vest. Mosk. un. Ser. 1: Mat., mekh. 20 no.2:16-21 Mr-Ap '65. (MIRA 18:6)

1. Kafedra differentsial'nykh uravneniy Moskovskogo universiteta.

DEMIN, G.V.; KAYVANOV, L.S.; SAKHANSKIY, N.A.; STERNIN, I.M.; YUKHTANOV, D.M., kandidat tekhnicheskikh nauk, redaktor; PETROVA, N.S., tekhnicheskiy redaktor

[High-speed smelting in a reverberatory furnace; experience of skilled workman A.A. IArusov] Skorostnaia plavka v otrazhatel'nykh pechakh; opyt mastera A.A. IArusova. Moskva, Gos. nauchno-tekhn. izd-vo lit-ry po chernoi i tsvetnoi metallurgii, 1952. 68 p. (MLRA 9:12)
[Microfilm]

1. Russia (1923- U.S.S.R.) Ministerstvo tsvetnoy metallurgii. Tekhnicheskoye upravleniye. TSentral'nyy institut informatsii.
2. Zamestitel' direktora instituta Gintsvetmet (for Yukhtanov)
(Smelting furnaces)

FILYAND, Mikhail Abramovich; SEMENOVA, Yelizaveta Ivanovna; POGODIN, S.A., zasluzhennyy deyatel' nauki i tekhniki RSFSR, professor doktor, retsenzent; MEYERSON, G.A., prof., doktor tekhn. nauk, retsenzent; ZELIKMAN, A.N., prof., doktor tekhn. nauk, retsenzent; LOGINOV, A.B., red.; STERNIN, I.M., red.; KAMAYEVA, O.M., red.izd-va

[Properties of rare elements; a handbook] Svoistva redkikh elementov; spravochnik. Izd.2., perer. i dop. Moskva, Izd-vo Metallurgiia, 1964. 912 p. (MIRA 17:3)

KOSOV, V.V., red.; POLYAKOV, I.Ya., prof., doktor sel'skokhoz.nauk, red.; STERNIN, I.V., red.; PECHENKIN, I.V., tekhn.red.

[Forecasting the appearance and calculating the prevalence of plant diseases and agricultural pests] Prognoz poiavleniia i uchet vreditelei i boleznei sel'skokhoziaistvennykh kul'tur. Moskva, Izd-vo M-va sel'.khoz. SSSR, 1958. 626 p. (MIRA 12:1)

1. Russia (1923- U.S.S.R.) Glavnaya gosudarstvennaya inspektsiya po karantinu i zashchite rasteniy. 2. Nachal'nik Glavnoy gosudarstvennoy inspektsii po karantinu i zashchite rasteniy Ministerstva sel'skogo khozyaystva SSSR (for Kosov). 3. Zaveduyushchiy laboratoriyey prognozov razmnozheniya massovykh vrediteley sel'skokhoz. kul'tur Vsesoyuznogo nauchno-issledovatel'skogo instituta zashchity rasteniy (for Polyakov).
(Plant diseases) (Agricultural pests)

SOV/179-59-1-5/36

AUTHOR: Sternin, L. Ye. (Moscow)

TITLE: On Computing an Axially-symmetrical Reaction Nozzle of Least Weight (K raschetu osesimmetrichnogo reaktivnogo sopla naimen'shego vesa)

PERIODICAL: Izvestiya Akademii nauk SSSR, Otdeleniye tekhnicheskikh nauk, Mekhanika i mashinostroyeniye, 1959, Nr 1, pp 41-45 (USSR)

ABSTRACT: It was found (Refs.1, 2, 3) that a short and therefore light nozzle does not give the best results. Therefore, various computations were performed in order to find the best characteristics (Eqs. on p 41, where x, y - coordinates, p - pressure of flow, ρ - density, p^o - pressure resistance, w - velocity, θ - angle of velocity, α - angle between velocity and a characteristic, a - critical velocity). The problem, however, can be considered when a characteristic AM (Fig.1) can be found for a given weight. The pull of a curved section can be calculated from Eq.(1.1) where R is the pull of section OA . A condition of equilibrium can be expressed as Eq.(1.2) and the weight by Eq.(1.3), where S_o is weight of the section

Card 1/3

On Computing an Axially-symmetrical Reaction Nozzle of Least Weight

AB , S is a continuous function describing the relation of surface and wall thickness of the nozzle. The other characteristics can be described as Eqs.(1.4) and (1.7), from which Eqs.(1.8) to (1.13) for 3 points, BC , B and C are derived. Their solution based on the function $b_1(y) \equiv 0$ (Eq.1.14) (Refs.2-3), can be shown as Eqs.(1.15) to (1.17) with the parameters α , Θ , x , y for points B and C calculated from Eqs.(1.18). It can be seen, then, that the solution can be found for any of the characteristics for a given weight, due to the differential equations (1.10), (1.8) and (1.9) being of first order. The Eq.(1.17) can also be found by a different method (Ref.2). This can be performed when the pull at a point dS near the end (Fig.2) is considered. Then the value of dP can be expressed as Eq.(2.1), which becomes Eq.(2.2) after differentiating for μ . From this, the Eq.(1.17) is obtained. It may happen that the nozzle has a predetermined length or is made from a prefabricated conic die stamping. In the former case $G = \gamma(S_o + L)$ where γ is an index: when $\gamma = 1$, $S'_{y(B)} = 0$, $S'_L = 1$ (Ref.2). In the latter, $G = \gamma\left\{S_o + \pi\left[y(B) + y(A)\right]\sqrt{L^2 + \left[y(B) - y(A)\right]^2}\right\}$.

Card 2/3

On Computing an Axially-symmetrical Reaction Nozzle of Least Weight

In both cases the Eq.(1.17) should be changed accordingly. Often in calculations an equivalent of weight ξ, determining the ratio of pull to the weight is employed. This ratio is usually predetermined. In this case Eq.(1.11) is substituted by Eq.(4.1). There are 2 figures and 3 Soviet references.

SUBMITTED: June 4, 1958.

26.2161

S/020/61/139/002/008/017
B104/B205

AUTHOR: Sternin, L. Ye.

TITLE: The boundaries of the domain of existence of shockless nozzles of optimum design

PERIODICAL: Akademiya nauk SSSR. Doklady, v. 139, no. 2, 1961, 335 - 336

TEXT: The variational problem concerning the optimum design of the supersonic section of an axisymmetric jet nozzle has been solved in several articles (G. Guderley, Ye. Gantsh, Mekhanika, 53, no. 4, 387, (1956); Yu. D. Shmyglevskiy, Prikl. matem. i mekh., 21, 195 (1957); L. Ye. Sternin, Izv. AN SSSR, Mekh. i mashinostr., 41, no. 1, (1959)). The solution is derived by assuming a given jet of the characteristic, which is produced by the flow past an angle A (Fig. 1). The best contour AB is obtained as a solution to the Goursat problem between the characteristic AC and the extremal characteristic CB. The equations on the extremal CB:

$$m_1 \cos\alpha + 2\pi\omega\cos(\alpha - \theta) = 0, \qquad (1)$$

Card 1/4

The boundaries of the domain of...

$$m_2 + 2\pi y\rho w^2 \operatorname{tg}\varkappa \sin^2\theta = 0, \qquad (2)$$

are now investigated. Here, $\varkappa$ is the angle between the velocity and the characteristic, θ the angle of inclination of velocity toward the x-axis, w the velocity, ρ the density, and m_1 and m_2 are constant Lagrange factors. From Eqs. (1) and (2) it follows that

$$y = -\frac{4\pi m_2}{\rho \sin 2\alpha}\left(\frac{m_1 \sin\alpha \pm \sqrt{4\pi^2 w^2 - m_1^2 \cos^2\alpha}}{m_1^2 - 4\pi^2 w^2}\right)^2, \qquad (3)$$

is valid on the extremal. The plus sign is taken for $\alpha(C) \leq \theta(C)$, and the minus sign for $\alpha(C) \geq \theta(C)$, since Eq. (3) must be fulfilled at point C. It can easily be shown for $\alpha(C) \neq \theta(C)$ that α and θ decrease along the extremal with growing y. For $\alpha(C) < \theta(C)$ α increases and θ decreases. At a definite point, α is equal to θ. When calculating other extremals, the sign of the radical in Eq. (3) has to be changed. As a result, the velocity distribution along the extremal of the characteristic will become

The boundaries of the domain of...

non-monotonic. It follows from Eq. (3) that $dy/d\alpha|_C$ will decrease when point C shifts along the characteristic ACP toward smaller values of x (within the range $\alpha < \theta$). At a certain value of C_0, the value of this derivative will pass through zero and then remain negative. In terms of geometry, this can be interpreted as a loop near the base of the extremal. From a physical point of view, however, this means that it is impossible to derive a "shockless" solution for the variational problem for all points of the characteristic ACP on the left-hand side of C_0, which might serve as starting points for the construction of the extremal. If α decreases along the extremal with growing y, the largest thrust will not be attained. If, using conditions (1) and (2), the derivative of the right-hand side of Eq. (3) is put equal to zero, a straightforward expression connecting α and θ on the line AC_0 will be obtained for a gas current with constant $\varkappa$ with the aid of well-known formulas expressing ρ and w in the terms of α:

$$\varkappa \sin\theta\sin(\alpha + \theta) - \cos\alpha\sin^2 2\alpha + \sin\theta\sin(\theta - \alpha) - \sin\alpha\sin 2\theta\cos 2\alpha = 0.$$

On the left-hand side of this line, there exist no "shockless" solutions

Card 3/4

25778 S/020/61/139/002/008/017
B104/B205

The boundaries of the domain of...

for the variational problem. Yu. D. Shmyglevskiy is thanked for assistance. [Abstracter's note: Complete translation.] There are 1 figure and 4 references: 3 Soviet-bloc and 1 non-Soviet-bloc. The reference to English-language publications reads as follows: C. V. R. Rao, Jet Propulsion, no. 6, 377, (1958).

PRESENTED: November 9, 1960, by V. P. Glushko, Academician

SUBMITTED: November 5, 1960

Card 4/4

SHARIKO, V.L., kand.med.nauk

Mathematical analysis of the changes in body weight in complete alimentary starvation in man. Pat. fiziol. i eksp. terap. 9 no.2:66-68 Mr-Ap '65. (MIRA 18:5)

1. Nauchno-issledovatel'skiy institut psikhiatrii (dir. - prof. D.D.Fedotov) Ministerstva zdravookhraneniya RSFSR, Moskva.

L 59221-65 EWT(1)/EWP(m)/EWA(d)/FCS(k)/EWA(1) Pd-1

ACCESSION NR: AP5014933 UR/0040/65/029/003/0418/0429

23
31
B

AUTHORS: Krayko, A. N. (Moscow); Sternin, L. Ye. (Moscow)

TITLE: On the theory of flows of a two-speed continuous medium with solid or liquid particles

SOURCE: Prikladnaya matematika i mekhanika, v. 29, no. 3, 1965, 418-429

TOPIC TAGS: viscous gas flow, particle motion, continuity, continuous flow method, flow research

ABSTRACT: The problem of movement of a continuous medium having extraneous matter is described by means of a model of a two-speed continuous substance. Several conditions are established for the purpose of clarifying the model: 1) the particles are identical spheres and collisions among the spheres can be ignored; 2) distances along which the flow characteristics are actually measured are a great deal larger than interparticle distances; 3) the Mach number of relative particle motion is less than critical. It is furthermore assumed that viscosity and thermal conduction are important only in processes of gas and particle interaction. The equations of motion and particle energy are given as

Card 1/3

L 59221-65

ACCESSION NR: AP5014933

$$(\mathbf{V}_d\nabla)\,\mathbf{V}_d + \frac{\partial \mathbf{V}_d}{\partial t} + \frac{1}{\rho_d^0}\nabla p - \mathbf{f} - \mathbf{F}_d = 0$$

$$\mathbf{V}_d\nabla e_d + \frac{\partial e_d}{\partial t} - q - Q_d = 0$$

$$\mathbf{f} = \varphi^1 \cdot |\mathbf{V} - \mathbf{V}_d|^n (\mathbf{V} - \mathbf{V}_d), \quad q = \varphi^2 \cdot (T - T_d)^k$$

$$T_d = T_d(e_d), \quad \varphi^1 = \varphi^1(p, T, T_d, |\mathbf{V} - \mathbf{V}_d|), \quad n > -1, \quad k \geq 0$$

The notation used includes: m- mass, $\rho^0 d$ - constant density, V_d- velocity, T_d- particle temperature, p- pressure, T- gas temperature, V- gas velocity, and t- time. An aggregate stream flow density is derived by considering mass transfer through an infinitesimal volume element. The equations of mass conservation are given in integral form for both gas and particles as

$$\iiint_\tau \frac{\partial \rho}{\partial t} d\tau + \iint_S \rho \mathbf{V} n dS = 0, \qquad \iiint_\tau \frac{\partial \rho_d}{\partial t} d\tau + \iint_S \rho_d \mathbf{V}_d n dS = 0$$

where τ is an arbitrary volume bounded by S, and n is the internal normal to S. The equations of conservation and motion within the control surface S are elaborated to include heat flow and work considerations. The mathematical model

Card 2/3

L 59221-65

ACCESSION NR: AP5014933

is derived through the application of several transformations. It is then tested and appraised as it applies to several particular cases (presence and/or absence of certain types of flow). Additional discussion is devoted to conditions of two-dimensional and symmetric flow. The authors thank G. M. Bam-Zelikovich and G. G. Chernyy for their constructive criticisms. Orig. art. has: 42 equations.

ASSOCIATION: none

SUBMITTED: 13Dec64 ENCL: 00 SUB CODE: ME

NO REF SOV: 006 OTHER: 008

dm

Card 3/3

L 08812-67 EWP(m)/EWT(d)/EWT(l)/EWT(m)/EWP(w)/EWP(v)/EWP(k) IJP(c)
ACC NR: AP6034533 SOURCE CODE: UR/0421/66/000/005/0014/0022

WW/EM
AUTHOR: Sternin, L. Ye. (Moscow)

59
B

ORG: none

TITLE: Extremal nozzle contours for gas flows with particle lag

SOURCE: AN SSSR. Izvestiya. Mekhanika zhidkosti i gaza, no. 5, 1966, 14-22

TOPIC TAGS: contoured nozzle, Laval nozzle, nozzle design, two phase flow, nozzle flow, particle lag loss

ABSTRACT: An analysis was made of one-dimensional two-phase flow in a Laval nozzle at a small lag of the temperature and velocity of the particles with respect to the gas. The variational problem to determine the maximum impulse of the nozzle was formulated along the contour for a given geometric expansion. The impulse losses due to the nonparallelism of the flow were simulated by a function which depends on the variable ordinate of the contour and the inclination angle of the tangent to the contour. Instead of using the pressure as an argument in the expansion series of expressions for the flow parameters as in previous studies, the nozzle ordinate was used. The following expressions were obtained for the pressure, velocity, and temperature:

Card 1/4

$$\frac{p}{p_0} = 1 + \frac{ew}{1+w}\frac{2\varkappa}{\varkappa+1}\frac{L_a}{l(1-\lambda^2)}\left\{\lambda^{2/3} - (1+\gamma\lambda^2)\left[L(\lambda) - \frac{l}{L_a}\frac{\xi}{2\gamma}\right]\right\}$$

$$\frac{u}{u_0} = 1 + \frac{ew}{1+w}\frac{T(\lambda)L_a}{l(1-\lambda^2)}\left[\frac{2\varkappa}{\varkappa+1}L(\lambda) - \frac{\varkappa}{\varkappa-1}\frac{l}{L_a}\xi - \lambda^{2/3}\right]$$

$$\frac{T}{T_0} = 1 + \frac{ew}{1+w}\frac{2\gamma L_a}{l}\frac{\lambda^2}{1-\lambda^2}\left[\frac{1+\lambda^2}{2\sqrt{\lambda}} + \frac{\varkappa}{\varkappa-1}\frac{l}{L_a}\xi - \frac{2\varkappa}{\varkappa+1}L(\lambda)\right]$$

where $\varepsilon = a_*/v$ (v is a parameter proportional to the square of the particle radius, a_* is the equilibrium gas velocity in the nozzle throat, w is the particle flow rate, and $\lambda = u_0/a_*$ (reduced velocity). The following two equations were derived for calculating the contour:

$$x = l\int_{\lambda^*}^{\lambda} \frac{\sqrt{\lambda}\,[1+\gamma(2\eta-1)\lambda^2]}{1-\gamma\lambda^2}\,d\lambda \left\{\int_{\lambda^*}^{\lambda^a} \frac{\sqrt{\lambda}\,[1+\gamma(2\eta-1)\lambda^2]}{1-\gamma\lambda^2}\right\}^{-1} \qquad (1)$$

$$2\left(\frac{\varkappa+1}{2}\right)^{\frac{1}{\varkappa-1}}(1-\gamma\lambda^2)^{\frac{\varkappa}{\varkappa-1}} rf'\left\{\frac{1+w}{ew}\cdot\frac{\varkappa+1}{2\varkappa} + \frac{1}{1-\lambda^2}\left[\frac{\xi}{2\gamma}(1+\gamma\lambda^2) + \frac{\lambda^2 H(\lambda)}{T(\lambda)\,dx/d\lambda}\right.\right. \qquad (2)$$

$$\left.\left. - (1+\gamma\lambda^2)\int_{\lambda_0}^{\lambda}\frac{\lambda H(\lambda)\,d\lambda}{T^2(\lambda)\,dx/d\lambda}\right]\right\} + \frac{H(\lambda)}{T(\lambda)(dx/d\lambda)^2}\left[f + \frac{\lambda}{T(\lambda)}\times\right.$$

$$\left.\times\left(R_1^* + \int_{\lambda_0}^{\lambda} f\frac{1+\gamma\lambda^2}{\lambda^2}\,d\lambda\right)\right] = \text{const}, \quad R_1^* \equiv R_1(\lambda_*).$$

where l is the length of the nozzle, κ is the specific heat ratio, and $\eta = c/c_p^x \varepsilon_T$, $c_p^x = c_p + wc/l + w$. The calculated contours are shown in Fig. 1. The nozzle contour calculated by equation (2) has smaller

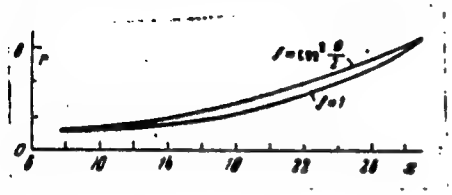


Fig. 1. Nozzle contours.

losses than those calculated by equation 1 due to the nonparallelism and particle lag, although the losses are quite large for both contours. Calculations, made by the equation

$$x = \int_{r_0}^{r_a} \sqrt{C(pr)^{0.6} - 1}\, dr$$

L 08412-67
ACC NR: AP6034533 O

for a flow without particles, showed that the maximum difference between given ordinates of the contour amounts only to +0.3. Orig. art. has: 45 formulas and 2 figures.

SUB CODE: 21/ SUBM DATE: 25Feb66/ ORIG REF: 005/ OTH REF: 008/
ATD PRESS: 5103

Card 1/1 LS

MARTYNCHEV, A.N., kand.med.nauk (Leningrad, ul. Novostroyek, d.8, kv.3);
STERNIN, M.A.; KOSTIN, E.D.

Dynamics of venous pressure in patients during surgery under various types of anesthesia. Vest.khir. 83 no.8:107-115 Ag '59.
(MIRA 13:1)

1. Iz gospital'noy khirurgicheskoy kliniki (zav. - prof. A.V. Smirnov) i fakul'tetskoy khirurgicheskoy kliniki (zav. - prof. P.N. Mapalkov) Leningradskogo sanitarno-gigiyenicheskogo meditsinskogo instituta.
(ANESTHESIA eff.)
(BLOOD PRESSURE physiol.)

BROVERMAN, Mikhail Vladimirovich; STERNIN, M.G., inzh., retsenzent; KACHURINER, Ya.A., inzh., red.; BORODULINA, I.A., red.izd-va; FRUMKIN, P.S., tekhn.red.

[Technology of the manufacture of centrifugal compressors] Tekhnologiia proizvodstva tsentrobezhnykh kompressornykh mashin. Moskva, Gos.nauchno-tekhn.izd-vo mashinostroit.lit-ry, 1960. 220 p. (MIRA 13:4)

(Compressors)

S/114/60/000/003/005/008
E194/E355

AUTHORS: Libman, S.Ye., Pachin, V.Kh., Sternin, M.G. and El'tsufin, S.A., Engineers

TITLE: Casting of Nozzle Segments of Steam Turbine Type ВПТ-50 (VPT-50) by the Lost-wax Method

PERIODICAL: Energomashinostroyeniye, 1960, No. 3, pp. 35 - 37

TEXT: The nozzles of the high-pressure cylinder of turbine VPT-50 operate on steam at a pressure of 90 atm, and a temperature of 535 °C. The nozzle boxes consist of four separate segments wherein milled blades were mounted on machined rims and welded. The parts were made of forgings of steel grade 15Х11МФ (15Kh11MF). After welding, the duct sizes were corrected by hand fitting. To economise in cost, labour and metal the Leningrad Metal Works introduced the lost-wax method of casting nozzle-box sections. The cast segments have the ends cut off and are then butt-welded together. The patterns for the blade holders are made of a mixture of 96% technical urea and 4% boric acid. Those for

Card 1/3

S/114/60/000/003/005/008
E194/E355

Casting of Nozzle Segments of Steam Turbine Type VPT-50 by the Lost-wax Method

the blades are made in a presstool with a mixture of 50% paraffin wax and 50% stearine. When the pattern has been assembled in the mould the urea part can be dissolved out with water.
The wax surface is treated with a ceramic paint consisting of 33% by weight hydrolised ethylsilicate and 67% marshalite, which is natural quartz dust. Six layers of ceramic paint are applied to the pattern. It is then dried, first in air and then in an ammonia chamber. Next, the wax pattern is melted out of the mould in hot water at 80 - 90 °C. The mould is then dried at 200 °C in an electric furnace. The mould is reinforced with sand and hardened by heating in an electric furnace for six hours.
The nozzle segments are cast of steel grade 15Х11МФЛ (15Kh11MFL) which is of sorbitic structure. After preliminary cleaning up the castings are heat-treated by a process which

Card 2/3

S/114/60/000/003/005/008
E194/E355

Casting of Nozzle Segments of Steam Turbine Type VPT-50 by the Lost-wax Method

is described. Castings obviously defective are rejected by visual examination; final examination is by X-ray inspection and etching. Development experience that led to the use of the formulations and procedures given is briefly described. The shrinkage allowance is stated, and the method of controlled cooling used to avoid cracks is described.
By using casting instead of welding and milling, the weight of the normal segments on a turbine was reduced from 710 to 172 kg, the labour required was reduced from 1 730 to 840 man hours and the cost from 25 827 roubles to 13 387 roubles. There are 5 figures.

Card 3/3

STERNIN, M.O.

Subcutaneous rupture of the retroperitoneal portion of the duodenum.
Vest.khir. 77 no.5:83 My '56. (MLRA 9:8)

1. Iz 2-go khirurgicheskogo otdeleniya (zav. otd. D.S.Landsman) Pskovskoy oblastnoy bol'nitsy (gl. vrach. I.I.Saltan, nauchn. rukovoditel' V.V.Krestovskiy)
(DUODENUM, rupture,
retroperitoneal subcutaneous (Rus))

STERNIN, M.O. (Pskov, Bol'nichnaya ul., d.1)

Pathogenesis and clinical aspects of occlusion of the mesenteric vessels [with summary in English]. Vest.khir. 79 no.8:57-61 Ag '57. (MIRA 10:10)

1. Iz 2-go khirurgicheskogo otdeleniya (zav. - D.S.Landsman) Pskovskoy oblastnoy bol'nitsy (nauchnyy rukovod. - dotsent V.V. Krestovskiy)

(ARTERIES, MESENTERIC, dis.
occlusion, pathogen. & clin. aspects)

STERNIN, M.O.

Sodium thiopental anesthesia in patients with liver function disorder. Vest. khir. 84 no. 4:94-100 Ap '60. (MIRA 14:1)
(THIOPENTAL) (LIVER--DISEASES)

STERNIN, M.O.

Histochemical data on the effect of various pharmacological substances used in anesthesiology on the depot glycogen of the liver. Vest.khir. 85 no.11:116-123 N '60. (MIRA 14:2)

1. Iz gospital'noy khirurgicheskoy kliniki (zav. - zasluzh. deyatel' nauki prof. A.V. Smirnov) Leningradskogo sanitarno-gigiyenicheskogo meditsinskogo instituta.
(LIVER) (GLYCOGEN) (ANESTHETICS)

STEKHIN, M.O., Cand. Med. Sci., -- (diss) "Anesthetization during operations in patients with mechanical jaundice," Leningrad.1961, 20 pp (Leningrad State Institute for the Advanced Training of Physicians im S. M. Kirov) 300 copies

(KL-Supp 9-61, 192)

DENISENKO, P.P.; STERNIN, M.O.

Use of central cholinolytic drugs in anesthesiology. Vest.khir. no.4:93-97 '61. (MIRA 14:4)

1. Iz otdela farmakologii (zav. - prof. S.V. Anichkov) Instituta eksperimental'noy meditsiny AMN SSSR i gospital'noy khirurgicheskoy kliniki (zav. - prof. A.V. Smirnov) Leningradskogo sanitarno-gigiyenicheskogo meditsinskogo instituta.
(PARASYMPATHOLYTICS) (PREOPERATIVE CARE)

STERNIN, M. O.

Shock and hepatorenal insufficiency in pancreatoduodenal resections. Khirurgiia 37 no.7:93-98 Jl '61. (MIRA 15:4)

1. Iz gospital'noy khirurgicheskoy kliniki (zav. - zasluzhennyy deyatel' nauki prof. A. V. Smirnov) Leningradskogo sanitarno-gigiyenicheskogo meditsinskogo instituta.

(PANCREAS--SURGERY) (DUODENUM--SURGERY)
(LIVER) (KIDNEYS)

STERNIN, M.O.; MOTOVILOV, P.Ye, kand.med.nauk

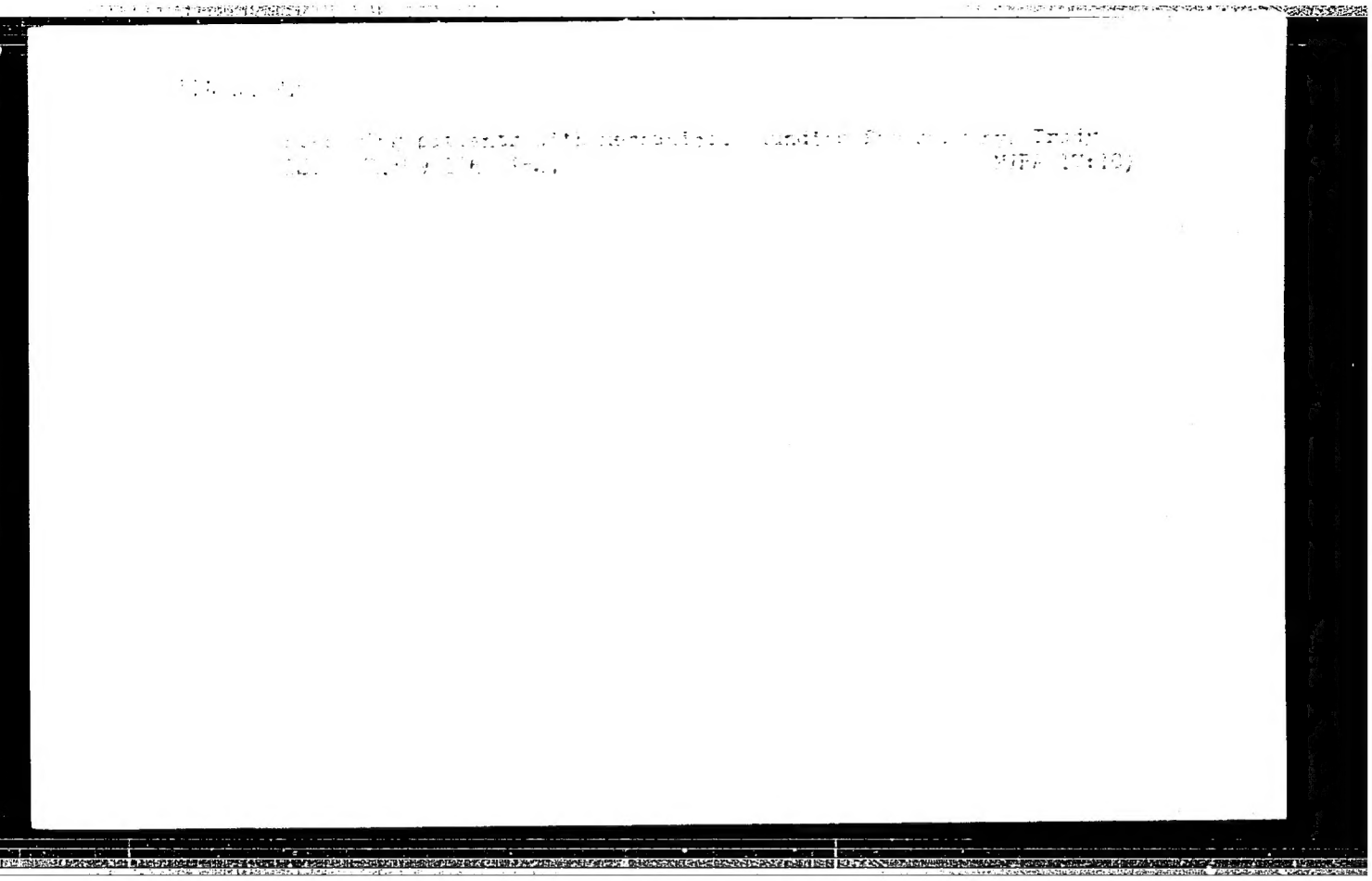
Intravenous anesthesia with methygenal (thiogenal). Vest.khir. 86 no.2:67-70 '61. (MIRA 14:2)

1. Iz gospital'noy khirurgicheskoy kliniki (zav. - prof. A.V. Smirnov) Leningradskogo sanitarno-gigiyenicheskogo meditsinskogo instituta i otdela farmakologii Instituta eksperimental'noy meditsiny AMN SSSR.
(BARBITURATES) (INTRAVENOUS ANESTHESIA)

STERNIN, M.O.

Minutes of the 38th and 39th sessions of the Anesthesiological Section of the Pirogov Surgical Society. Vest.khir. 87 no.11: 148-151 N '61. (MIRA 15:11)

(SURGICAL SOCIETIES)



[illegible]
[illegible], V.A., [illegible] (Leningrad)

Review of G.P. Z[illegible] and V.A. Golegorskii's book "[illegible] anesthesia in a [illegible] clinic." Vest. khir. 93 no.[illegible]:13[illegible]-13[illegible] [illegible]
(MIRA [illegible])

LYSENKO, T.D.; OL'SHANSKIY, M.A.; SINYAGIN, I.I.; GLUSHCHENKO, I.Ye.; VARUNTSYAN, I.S.; PREZENT, I.I.; SHCHERBINOVSKIY, N.S.; SHUNKOV, V.I.; YEVSTIGNEYEV, S.N.; BOCHEVER, A.M.; LITVIN, V.M.; YAYKOVA, A.T.; PODVOYSKIY, I.I.; SAKS, Ye.I.; KHALIFMAN, I.A.; FEYGINSON, N.I.; SHCHEGLOVA, Yu.N.; DLUGACH, G.V.; STERNIN, B.A.; LISOVSKAYA, O.V.; GUBINA, T.I.; ROZENFEL'D, M.I.; TSVETAYEVA, Ye.M.; PARKHOMENKO, Ye.V.; MEYMAN, N.F.

Sofia IAkovlevna Voitinskaia; an obituary. Agrobiologiia no.4:121 Jl-Ag '58. (MIRA 11:9)
(Voitinskaia, Sofi'ia Iakovlevna, 1898-1958)